US Army Corps of Engineers
St. Paul District

Endangered Species - Conservation of Native Mussels

Location/Description

Zebra mussels (Dreissena polymorpha) in the Upper Mississippi River System are a significant threat to the continued survival of the endangered mussels, Higgins eye pearly mussel (Lampsilis higginsii) and winged mapleleaf (Quadrula fragosa).

Federally endangered mussels - winged mapleleaf and Higgins' eye

Management of zebra mussels in the system may need to include measures to control/manage dispersal of zebra mussels, to reduce/manage zebra mussels already present, and to prevent future introductions of zebra mussels and/or other exotics.

Alternatives to be studied will include large-and small-scale alterations of the habitat conditions to manage zebra mussels, closing portions of the system to recreational and/or commercial traffic, cleaning/coating technologies, and barriers to prevent transport of zebra mussels.

Corps of Engineers representatives from the St. Paul District and the Engineer Research and Development Center will conduct the feasibility study. Interagency collaboration will be needed to complete the feasibility study. Public meetings and stakeholder meetings would be held with commercial shipping interests; recreational boating interests; and regional, county, and local interests. The feasibility study could recommend implementation of zebra mussel management alternatives that fall outside the Corps' existing authorities. Such alternatives would need to be implemented by others.

Status

Fiscal year 2006 funds will be used to initiate a feasibility study for the management of zebra mussels to protect and conserve the endangered mussels in the St. Croix River. The first year of study will focus on management of zebra mussels in the St. Croix River basin and connecting UMR pools, including Lake Pepin, a known major source of zebra mussels. A risk-based model will be developed to evaluate the most likely pathway for further zebra mussel invasion, estimated long-term population characteristics, and identification of sensitive areas and potential ecological consequences. This model will be used to focus the development and evaluation of potential management actions, such as measures to control dispersal of zebra mussels in the St. Croix River basin, and measures to manage existing zebra mussel populations in the St. Croix River and adjacent UMR pools. If zebra mussel control is only partially effective and/or determined to not be feasible, a structured, consistent, and fully transparent decision-making process will be needed to determine triggers and criteria for relocation and/or artificial propagation of winged mapleleaf mussels.

Authority

The study was undertaken under the authority of Section 216 of the Flood Control Act of 1970, which authorizes investigations for modification of completed projects or their operation when found advisable as a result of significantly changed physical or economic conditions and for improving the quality of the environment in the overall public interest. This feasibility study is consistent with recommendations in the approved Section 905(b) reconnaissance report, which recommended a $2.10 million feasibility study at full Federal expense to investigate zebra mussel control measures throughout the entire Upper Mississippi and Illinois waterways, including the St. Croix River. As stated in the final biological opinion for the operation and maintenance of the Federal 9-Foot Navigation Channel Project on the Upper Mississippi River, the study is required to comply with Section 7(a)(2) of the 1973 Endangered Species Act.

Fiscal

Fiscal year 2006 $248,000
Balance to complete $1,862,000

Total Federal cost $2,110,000

Non-Federal cost $0
Total estimated cost $2,110,000